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Abstract of the national paper of Bolivia

1. Since the early 1970s, Bolivia has used Earth observation satellite data at the state level for mapping the country's renewable and non-renewable resources through the establishment of the ERTS programme within the Geological Service of Bolivia (formerly GEOBOL). Since that time, in addition to the intensive work of the Military Geographic Institute, which is conducting a national programme of map updating and surveying uncharted areas using optical and radar sensors, virtually all government agencies—the National Statistical Institute, the National Geology and Mining Service, the National Meteorology and Hydrology Service, the Agricultural and Forestry Supervisory Boards, the National Institute of Agrarian Reform and the Land Management Department of the Ministry for Sustainable Development and Planning, among others—have been using such space data to optimize their activities. Since the beginning of the 1990s, a series of university remote sensing and geographic information system (GIS) training centres have been set up at universities in the country's main cities (CAE-IE/Universidad Mayor de San Andrés, CLAS, CISTEL and CUEMAD of the Universidad Mayor de San Simón, CIMAR/Universidad Autónoma Gabriel René Moreno and the Noel Kempff Mercado Museum), research institutes such as the Bolivian Association for Environmental Remote Sensing (ABTEMA) have been established and a network of professionals in the fields of remote sensing and space sciences (SELPER-Bolivia) has been developed. The private forestry sector is also entering the remote sensing/GIS sector with PROMABOSQUE, a technical body of the Forestry Association.

2. These organizations use Earth observation satellite data for various applications, including mapping and monitoring natural phenomena and their impact, disaster management, agrometeorology, agriculture, land-use planning, freshwater resource development, studies on the focus of diseases, mining exploration and census and land registration applications.

3. In the area of navigation and location systems, the Military Geographic Institute, a national body equipped with a Global Positioning System (GPS) network with high precision points for monitoring the movement of tectonic plates, is initiating the establishment of active GPS systems.

4. With regard to communications, Bolivia, through the national telecommunications enterprise ENTEL, uses the International Telecommunications Satellite Organization, Domsat, Nahuelsat and Panamsat satellite systems for its communications at the national level. ENTEL recently granted the first mobile service licence to the firm Iridium for the use of non-geostationary low-orbiting satellite systems. Within the framework of the Andean Community of Nations, community authorization has been granted for the multinational firm ANDESAT-EMA to operate its satellite.

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5. The satellite telecommunications industry is the most developed sector of the space market in Bolivia, followed by GIS, GPS and remote sensing. In other areas, such as the development of computer equipment and programmes, advanced electronics, materials technology, satellite manufacture and biological sciences, there are no commercial activities.

6. With a view to initiating and promoting space-related commercial activities and secondary activities in support of the various industrial sectors, environmental monitoring, health and medicine, public safety and transport, thereby strengthening the four main focuses of action of the State, as defined in its General Economic and Social Development Plan, 1997-2002, the Science and Technology Commission of the Senate submitted to the latter for examination and approval, in late 1998, a legislative bill on the establishment of the National Commission for Space Sciences (CONCE), which had been drafted and agreed upon by the various sectors of civil society involved in those fields. This Commission will be the national counterpart institution in relations with international space science organizations; it will serve as the official regulatory and policy-making body in this field and be entrusted with the tasks of promoting and coordinating space science activities at the national level. It will be responsible for defining national space projects, plans and programmes and encouraging training, skills development and educational programmes in the different sectors of space sciences at the institutional, university and basic (primary and secondary) levels.

7. It is essential that this future body, whose governing board will comprise the various sectors of civil society involved and whose role will be of key importance in developing space sciences within the country and in familiarizing coming generations with the issues of sustainable socio-economic development, should be strengthened as from its establishment through the cooperation of Member States.

8. In addition to the officially submitted legislative bill referred to above, Bolivia is currently examining, with a view to ratification, the five treaties drawn up within the framework of the Committee on the Peaceful Uses of Outer Space. On the basis of an interinstitutional agreement with the Ministry of Education, the National Council for Science and Technology, the Executive Committee of the University of Bolivia, ABTEMA and SELPER-Bolivia, the Government initiated, in March 1999, under the auspices of the Organization of American States, a project for the inclusion of remote sensing in primary and secondary school curricula, in particular in the subject areas of language, geography, physics, mathematics, ecology/biology, computer science and technology, thereby making it possible to give young people a new vision of their natural resources and environment and to familiarize coming generations with environmental problems. It is important that this pioneer project should also receive the support of Member States in order to ensure its incorporation into the current educational reform programmes in Bolivia and in other countries.

Future courses of action

9. Bolivia is in need of increased international cooperation and support in the space sector to strengthen the four main focuses of action of the State, as defined in its General Economic and Social Development Plan, 1997-2002, in the following areas:

(a) Opportunity: industrial transformation, technology validation, environmental management and land-use planning;

(b) Equity: improved education at all levels and monitoring of urban development;

(c) Institution-building: strengthening of democracy through optimized access to information;

(d) Dignity: eradication of drug trafficking (illicit crop cultivation).

10. To that end, Bolivia has drafted a legislative bill on the establishment of CONCE, which is currently being examined in the National Congress. This Commission will be the official regulatory and policy-making body in this field and will be entrusted with the tasks of promoting and coordinating the space science activities of all sectors of civil society. It will also be responsible for defining all space projects, plans and programmes and will serve as the national counterpart in arranging and developing external cooperation in this field.

11. It is essential that this future body, which will be of key importance in developing space sciences within the country and in familiarizing coming generations with the issues of sustainable socio-economic development, and also the ongoing programme for the inclusion of space sciences in primary and secondary school curricula, should be strengthened through the cooperation of Member States, as provided for in the agenda for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).